WHAT IS CLAIMED IS:

1. A display panel inspection apparatus comprising:

a rotary base having first and second surfaces on which display panels are to be placed, and a rotation shaft inclined with respect to a horizontal so that the first and second surfaces can be switched between a front position (facing position) facing a front of the display panel inspection apparatus and a top position facing upward;

a fixture base having a driving section which rotates the rotation shaft, and supporting the rotary base to be rotatable about the rotation shaft;

a Z-axis drive mechanism which moves the fixture base forward toward the front of the display panel inspection apparatus to a predetermined position and backward to be retracted; and

a probe unit which faces the first or second surface of the rotary base that is at the front position (facing position) when the fixture base is moved to the predetermined position by the Z-axis drive mechanism.

2. The display panel inspection apparatus according to claim 1, further comprising pallet devices, which are provided on the first and second surfaces and support the display panels, each pallet device having a backlight.

3. The display panel inspection apparatus according to claim 1, further comprising a front panel having a window and a stage device attached to surround the window of the front panel.

4. A display panel inspection apparatus comprising:

a rotary base having first and second surfaces on which display panels are to be placed and a third surface which is a rotation surface, the rotary base having a substantially triangular cross section including first, second and third sides in a side view, the first and second sides corresponding to sides of the first and second surfaces, the third side corresponding to a side of the third surface, and a rotation shaft being set in a substantially central portion of the third surface and perpendicular to the third surface;

a fixture base which has a driving section that rotates the rotation shaft and an opposing surface opposing to the third surface, and which supports the rotary base to be rotatable about the rotation shaft;

a Z-axis drive mechanism which supports the fixture base and moves the fixture base frontward and backward in a state where the opposing side of the fixture base faces frontward; and

a probe unit which faces in proximity to one surface of the rotary base when the fixture base is moved forward to a predetermined position by the Z-axis drive mechanism.

5. The display panel inspection apparatus according to claim 4, wherein when the first surface of the rotary base is horizontal, the second surface thereof faces the probe unit, and when the second surface of the rotary base is horizontal, the first surface thereof faces the probe unit.

6. A display panel inspection method using a display panel inspection apparatus comprising: a rotary base having first and second surfaces on which display panels are to be placed, and a rotation shaft inclined with respect to a horizontal so that the first and second surfaces can be switched between a front position (facing position) facing a front of the display panel inspection apparatus and a top position facing upward; a fixture base having a driving section which rotates the rotation shaft, and supporting the rotary base to be rotatable about the rotation shaft; a Z-axis drive mechanism which moves the fixture base forward toward the front of the display panel inspection apparatus to a predetermined position and backward to be retreated; and a probe unit which faces the surface of the rotary base that is at the front position (facing position) when the fixture base is moved to the predetermined position by the Z-axis drive mechanism, the method comprising:

inspecting a first display panel on the facing position of the rotary base by the probe unit;

during the inspection, exchanging a display panel on the top position, which has been inspected, with a second display panel to be inspected next;

after completion of the first display panel, retreating the fixed base by the Z-axis drive mechanism; and

rotating the rotary base to inspect the second display panel.

7. A display panel inspection apparatus comprising:

a rotary base having first and second surfaces on which display panels are to be placed, and a rotation shaft inclined with respect to a horizontal so that the first and second surfaces can be switched between a front position (facing position) facing a front of the display panel inspection apparatus and a top position facing upward;

a fixture base having a driving section which rotates the rotation shaft, and supporting the rotary base to be rotatable about the rotation shaft;

a probe unit which inspects a subject display panel placed on the surface of the rotary base that is at the front position;

an X-, Y- and θ axes adjustment stage device which position-controls the probe unit to achieve positioning between the probe unit and the subject display panel; and

a Z-axis drive mechanism which position-controls the fixture base.